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QUARTERLY REVIEW

ILLUSTRATING

TRADE CONDITIONS IN

FINLAND

N:o 2 MAY

1931

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BUSINESS CYCLES AND THEIR CONTROL

By ARTHUR MONTGOMERY, PH. D.
Professor of Political Economy and Financial Science at Åbo Akademi

During the period immediately after the Great War the problem of the fluctuation of trade conditions aroused more attention, for various reasons,than, perhaps, ever before. The great variations of prices during the war and immediately after, brought the monetary side of the problem of trade conditions into prominence, and this was probably also the cause of its being very generally expected that it would prove possible in the future to moderate to a great extent the tendency of trade conditions to fluctuate. Speaking generally, credit policy is the factor in trade conditions that can be influenced most easily. And in theory it can undoubtedly be asserted that a sufficiently far-seeing credit policy should be capable in most cases of stabilising trade conditions to a great extent. The experiences gained in wartime and in the post-war period had strongly accentuated the connection between the policy of a central bank and the value of the currency, and it seemed more and more probable that it should be possible, by perfecting credit policy, to attain comparative stability in the level of prices. In this way the problem of trade conditions would enter into a new phase. Experience testified to the fact that the movements of prices had been such a constituent factor in the development of trade conditions that it seemed possible to expect that, if they were regulated, the fluctuations of trade conditions would lose very much in severity.

After the war it was fairly generally expected that it would be possible to moderate considerably the tendency of trade conditions to fluctuate.

It was during the time after the great deflation crisis in 1920—21 that this view began to gain wider acceptance. Although the connection of cause and effect in this great crisis can by no means be considered to be as yet clearly established and although it is admitted that conditions in 1919—21 were quite unusually complicated and difficult to appraise, everything points to the fact that the strict credit restrictions during 1920 contributed very much to lend the crisis its devastating character. It was natural to assume that, if credit policy set itself the object of stabilising the level of prices and trade conditions generally, it should in this case, too, be able to achieve such effect-

It was thought that a farseeing credit policy would be the means of stabilising prices and reducing the severity of variations in trade conditions.

iveness as it displayed in the opposite direction in 1920—21. But the crisis had also clearly shown, what difficulties complicated trade conditions could present for credit policy, and what a delicate task it might be to appraise a given state of business conditions.

In analysing the state of trade conditions — in spite of the improved information the study of trade conditions has provided — some factors, hard to determine, must always be taken into account, which are capable of upsetting the effects of credit policy.

The first question, therefore, was to decide, what criterion should be considered most suitable in analysing trade conditions. The problem was to discover the existence of disturbing tendencies at the earliest possible stage, and it was consequently imperative to secure statistical material or information of some other kind that might provide sufficient guidance in this difficult question. With regard to the statistical material, in particular, it proved possible to supplement and improve it in a great measure, and as a matter of fact this statistical progress is probably one of the greatest gains of the study of business cycles, carried on since the end of the War. It was, however, impossible to reduce the examination of conditions to a mechanical reading of »business barometers» and so forth. Though the fluctuations of trade conditions display some comparatively constant features which are to be found in the great majority of periods of prosperity and depression, each particular business cycle presents sufficient individual features to render hasty, historical deductions by analogy dangerous. If, however, in spite of improved information, it is still difficult to appreciate the actual state of conditions and to estimate the potency of an upward or downward tendency, credit policy will have to make allowance for some unknown or hardly determinable factors that are capable of disastrously upsetting the effects of the credit policy of a central bank.

The problem of stabilising trade conditions has been dealt with most in the United States and the policy of the central bank there has approached very closely to a control of trade conditions.

The country in which the problem of stabilising business conditions has been most discussed and analysed, is undoubtedly the United States, and the Federal Reserve Board has pursued a credit policy that, at all events in practice, has approached very closely to a control of trade conditions. In other leading countries credit policy was much affected for some time by other considerations, e.g. the endeavour to return to a gold standard. No doubt, there too, at least in some cases, the idea of controlling trade conditions gained adherence, which is natural in view of the co-operation of the Federal Reserve Banks with central banks in Europe. In any case, however, it was the United States that attracted most attention in this respect and had the best opportunity of pursuing a policy in the direction indicated. The question is, then, what results the credit policy of the United States achieved from the point of view of stabilising business conditions.

What results has the credit policy of the United States achieved from the point of view of stabilising trade conditions?

It may be said that the result was for some years comparatively good. The period from 1922 up to 1929 was undeniably marked in the United States

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by a relatively high degree of stability in regard to trade conditions, though fluctuations were by no means unknown. The development since 1929 with its violent fall in prices and depression, is in strong contrast to this. If the development up to 1929, perhaps, gave rise in some quarters to exaggerated optimism regarding the possibility of controlling trade conditions, great scepticism has now taken its place.

If we try to explain the dissimilarity in the results of controlling conditions during these two periods, it is difficult to arrive at any perfectly safe conclusions on the basis of the data at present available. It seems, however, that the underlying conditions of credit policy varied in certain respects during the two periods. On the whole it may be said that the policy of the United States during the years immediately subsequent to 1921 was more independent of foreign countries than later. It was really only from 1924 and 1925 that the international return to a gold standard or »gold exchange standard» got well under way and a close connection was consequently established between the United States and the monetary systems of other countries. It may be said, therefore, that up to about 1925 the United States were in greater monetary isolation than later. This apparently facilitated the control of trade conditions in the United States. As an instance, the conditions in 1923 can be quoted. At the beginning of that year the improvement in trade conditions had assumed a more pronounced character. Federal Reserve policy, however, exerted a restraining influence and there was some rise in discount rates in the course of the spring. Actually the »boom» and the rise in prices were arrested. Subsequently the trend of conditions displayed a very uncertain character until in the spring of 1924 the decline grew more marked. In connection with this the Reserve banks introduced considerably easier terms in their credit policy. The decline was not prolonged. Already during the latter part of the year it was replaced by the beginning of an improvement in trade conditions.

During a long number of years upto 1929 stability in regard to trade conditions was striking.

It does not seem unlikely that the state of conditions in 1923—24 would have been more difficult to control, if the connection between the level of prices and the currency of the different countries had been closer. In that case the American credit restrictions would have evoked corresponding measures in Europe of a stronger kind than was now the case. This would have led to a greater generalisation of the change for the worse in trade conditions and by its repercussion on the United States would have caused an accentuation of the difficulties there. As it was, the exchange fluctuations exercised a counterbalancing influence and the absence of any strong disturbing tendencies from outside made it easier for the Reserve banks to keep the situation in hand. For instance, on the whole the sterling exchange rose during the

period of the American boom from the summer of 1922 to the spring of 1923, only to decline again during the latter part of 1923 up to the middle of 1924. Thenceforward a fresh rise occurred. Other countries also felt a similar tendency to a more or less pronounced extent. These exchange fluctuations counteracted the spread, first of the boom and later of the slump, and thereby facilitated the American credit policy.

The years 1925—27 were marked by a comparatively high degree of trade stability and the setback that occurred in 1927 was of a very mild nature. Nevertheless, it may be said that the difficulties of the Reserve banks' control of credit and trade conditions were increasing. First and foremost the connection with Europe had grown closer by degrees and the credit policy of the Reserve banks had to take this into consideration more and more. Other circumstances also contributed to make the appraisal of conditions more complicated than before. Some indices of trade conditions were now more difficult to interpret than before and the level of prices, in particular, displayed a tendency to develop in a manner that did not seem to harmonise well with earlier experience.

Since 1928 the tendency of trade conditions in the United States was decidedly upward and even strict credit restrictions seemed to have little effect.

From 1928 onwards the course of trade conditions in the United States was again more and more pronouncedly on the rise and the Reserve banks endeavoured to exert a restraining influence by means of operations in the open market and by means of a series of rises in the bank rate. These were the severest credit restrictions that had been applied since 1920, and the circumstance that, for the moment, they did not appear to have any great effect, was good testimony to the strength of the existing boom, although it must be admitted that by their considerateness for the acceptance market the Reserve banks counteracted their own restrictive aims to some extent. The fact that since 1919—20 no period of business prosperity had occurred that had so much of an international character as the present one, apparently contributed greatly to increase the strength of the boom in the United States. The reintroduction of a gold standard in most countries helped to facilitate the spread of the wave of prosperity and increased the difficulty of estimating the effects of the American bank rate policy. In the spring of 1923 a slight rise of the bank rate, accompanied, it is true, by other measures of a restrictive nature, had been sufficient to arrest the upward tendency effectually. In 1928

During 1929 the restrictive policy continued, but led to a change in the position, the violence of which was quite unexpected.

three successive rises in the bank rate by the New York Reserve bank seemed to exert but a very weak influence on the state of trade conditions, although they affected the direction of the international gold movement and — be it said by the way — by their consequences on the exchange market also increased

the difficulty of the position of Finland, which delayed too long in adapting itself to the change in rates of interest.

During 1929 the restrictive policy of the Reserve banks continued and in August the New York bank rate was brought up to the high level of 6 %. In the autumn the great Stock Exchange crash occurred in New York and thus the severe decline in trade conditions was started which continued, on the whole, throughout 1930. The credit restrictions had clearly had an influence, the violence of which was quite unexpected. At the end of 1929 and the beginning of 1930 a comparatively satisfactory development of the situation was still generally expected.

To what was it due that the American credit restrictions in 1929 had such a great effect?

The final problem is, therefore: to what was it due that the American credit restrictions in 1929 had such a violent effect? This question has been discussed very much and has been answered in different ways by different writers.

As regards the actual raising of the bank rate in 1929, in the first place, this has been the subject of considerable criticism and now, after the event, when it is easier to survey cause and effect, it would seem that such criticism was, in the main, correct. It appears, in other words, as if the state of conditions was already undermined to some extent in the spring and summer of 1929 and consequently especially sensitive to further interference in a restrictive direction. It is especially one circumstance, the gold problem, that has been brought forward in this connection. It has been asserted that the international level of interest rates had been affected for some time by a shortage of gold and that the danger of a severe fall in prices was consequently imminent. The whole of this question as to the possible share of gold in the development of conditions since 1929 must, of course, still be looked upon as not at all fully settled. It can, however, not be denied that the curve of trade conditions displays several traits that can be explained to some extent on the assumption of such a shortage of gold. The relative stability of prices during the boom until the latter part of 1929 and the subsequent violent fall in prices are characteristic and harmonise very well with the assumption of a »secular» tendency towards falling prices. When the secular tendency, the long-term tendency, is downward, the price curves of the business cycle easily assume a form that is marked by but a slight ascent during the boom and a comparatively considerable descent during the slump. However, these analogies to former periods of gold shortage are, of course, not by themselves proof of the share of the gold shortage in the present crisis, even though they gain some support from the figures concerning the development of gold production.

The necessary regard does not seem to have been paid to international trade conditions; during the spring and summer of 1929, however, trade conditions were already weakened to some extent.

Even those who are rather doubtful as to the part played by the gold shortage in the change of conditions, can, nevertheless, fully subscribe to the

opinion that during the spring and summer of 1929 trade conditions were already weakened to some extent. In some places abroad the difficulties had already become more or less clearly evident. The position of the countries importing capital, such as Germany and some other European states, including Finland, and several countries outside Europe, had already grown worse, in a greater or lesser degree, on account of the strained conditions on the investment market. The decreasing purchasing power in these places also began to affect the position in other countries by degrees. In the United States, too, the position could be regarded during the summer as showing some signs of uncertainty. The raising of the rates of interest could, under such circumstances, be considered as too great a pressure, all the more so, as it could be taken for granted that such a measure would force further restrictions in Europe also.

Even if it is admitted that the credit policy in 1929 was too restrictive, this scarcely explains the whole subsequent course of the depression. At the beginning of 1930 a comparatively bright view of the situation was still taken in many quarters, perhaps in most quarters, and in any case no idea was entertained of the violence with which prices were to fall. Now, after the event, it is easy to see that this was an erroneous view of the situation, and the Reserve banks have been subjected to severe criticism for failing to liquidate the restrictive credit policy with sufficient promptitude. The New York bank rate was, indeed, down to 4 ½ % at the end of 1929, but this was a considerably higher level than the average for the years before 1928. In the course of the spring, however, rapid reductions were made and in June the rate had already dropped to 2 ½ %.

The adverse political development created a state of uncertainty, calculated to make trade conditions more difficult.

It seems very doubtful, however, whether the delay in lowering the bank rate would have had such an adverse influence, had fresh disturbing influences not been added. Altogether, the course of conditions during 1930 can scarcely be explained, unless sufficient regard is paid to the adverse course of political events in different parts of the world. This factor, in any case, created a state of uncertainty which was calculated to accentuate the already unfavourable trade conditions and to retard their recovery.

At all events the course of conditions in 1928—30 has undoubtedly placed the whole problem of stabilising the movement of trade conditions in a clearer light than before. For anyone who considers it of the utmost importance that the method of controlling business conditions should be improved and perfected and that, as far as possible, the occurrence of such violent periods of depression as the one that has continued since the end of 1929, should be restricted, the study of the history of trade conditions during the last few

years should be in the highest degree instructive. The point is to discover, what the adverse course of events during the last few years is due to; to find an explanation of why the comparatively successful control of conditions in former years should have proved incapable of mastering the situation in 1929—30 satisfactorily. If the opinion expressed here is right, it must have been due substantially to two circumstances, partly to insufficient regard for international conditions and generally a lack of co-operation in this respect between different countries, and partly to the influence of factors that are difficult to appraise, such as political uncertainty and possibly also disturbances in the supply of gold.

It is therefore an important object to provide a better survey of the international state of trade conditions and to secure more comprehensive co-operation between different countries with a view to controlling conditions. This applies also to the removal, as far as possible, of disturbing causes of the kind described above. A successful appreciation of trade conditions and policy of control requires a certain degree of regularity in the phenomena of trade conditions. Only in such a case is it possible to try out thoroughly satisfactory methods in practice. In the future, too, every business cycle will certainly possess its individual features, but there should be some possibility of overcoming certain factors that appear at present to have caused very disturbing phenomena in the development of conditions. Such disturbing phenomena as are connected with fluctuations in the supply of gold, should to a very great degree be capable of elimination. Political tension is also a factor, the adverse influence of which is obvious, and everything that can assist in lessening the range of political disturbances, should to that extent facilitate the solution of the problem of controlling trade conditions. The more the points that are hard to appraise, lose in importance, the greater is the possibility of controlling business conditions effectually.

It is an important object to provide a better survey of the state of international trade conditions and to secure closer co-operation between different countries with a view to controlling trade conditions. It should not be impossible to overcome some of the factors that disturb the development of trade conditions at present.

A GLANCE AT THE INDUSTRIAL ACTIVITY OF THE STATE IN FINLAND

By SENATOR A. OSW. KAIRAMO

II

THE IMATRA POWER STATION

Already prior to the war it was proposed to utilise Imatra, the largest rapids in the South of Finland, for industrial purposes. A scheme was started, for instance, with the intention of supplying the electric power requirements of St. Petersburg and its environs, an idea that was, fortunately, not carried out. It could, however, only be a question of time, when a power station would be constructed at these comparatively easily harnessed rapids.

In 1921 the matter came up in the Diet which resolved to build power stations at the Imatra and Anjala rapids at Government expense. In the budget for that year a grant of $10^1/_2$ million marks was included for preparatory work and for purchasing the necessary land and waters. The decision was unusual owing to the fact that it was not based on a Government proposal; in fact, the Minister of Communications opposed the grant on the grounds that the preliminary technical calculations and other work had not yet been completed. The initiative had been taken in the Financial Committee, which explained the scheme in its report on the budget estimates in a statement of about two pages. The question gave rise to a long debate in the Diet, during which the danger was pointed out of tying up hundreds of millions of marks in construction work lasting many years without the special authorities and other experts having expressed an opinion and supported the grant.

Initiative of the Diet.

It was realised, of course, that the erection of the power station would burden the already strained finances of the State in a high degree, but optimism easily secured a victory. If the Government finances were to be put in order at all — it was argued — means for such undertakings must be found, because it meant the sheer squandering of wealth to allow such rapids as Imatra to remain idle. One expert even estimated the annual loss caused by not harnessing Imatra at about 49 million marks. The need for cheap power for electrifying the railways was urged as an important reason for hurrying on a decision in the matter. This necessity has so far not proved urgent. — As the South of Finland had already been electrified, an investigation of the possible need for a greater supply of current should have been made, especially as, so far as is known, there had not been any complaints of unreason-

Calculations and arguments.

ably high charges. This aspect of the question was ignored, however. The deciding factor was also not dealt with: the relation of the price of coal to electric current. — On the contrary, an atmosphere unfavourable to private enterprise was frankly displayed, when a speaker pointed out that by hurrying on the building of Imatra the State would be able to reduce the value of the other still unutilised rapids in the Vuoksi river to an appreciable extent and buy them up cheaply later or force their owners to conclude favourable agreements in some other way.

At an estimated capacity of 90,000 KW it was calculated that the cost of the rapids, fully harnessed as regards the high tension installation, would amount to about 262 millions marks. No mention was made of the cost of the transmission lines and transformer stations. The building was calculated to take about 8 years. The calculations and at any rate the data concerning the technical side of the enterprise were, no doubt, supplied by the water-power commission appointed by the Government some years earlier.

The work of construction proceeded according to plan, so that the supply of power was begun early in 1929. Up to the end of the year about 135 million KWH of electric power were sold for altogether 12.5 million marks. The work of extension and completion continued during 1930, by the end of which year altogether 395.9 million marks had been invested in the enterprise and 15.6 millions remained of the sums granted. The power station, consisting of four turbine aggregates, has now been completed up to half its future capacity. The present capacity is about 75,000 KW, and when working at full pressure, about 600 million KWH per annum. In connection with the station 540 km of 120,000 volt main lines have been put up to Viipuri (Viborg), Helsinki (Helsingfors) and Turku (Åbo) at an average cost, including transformer stations, of about 325,000 marks per km, and 150 km of 35,000 volt local lines that have involved a cost of about 80,000 marks per km.

Building proceeded according to plan and the supply of current began, in 1929.

In 1930 the maximum load of power sale amounted to 52,000 KW and about 231 million KWH or close on 40% of the maximum annual quantity. The gross receipts for the year amounted to 22.9 million marks, from which 6 millions should be deducted for working expenses and, it is stated, 2 millions (0.5%) for depreciation. The surplus represents 3.9% interest on the construction costs expended, which amounted in 1930 to an average of 382.5 million marks. In this connection, however, the loss of interest during the period of construction is not taken into account, nor is any value placed on the natural power of the rapids, which is estimated at not less than 40—50 million marks. At 7% which is approximately equal to the rate of interest

on State loans taken up of late years, the loss of interest amounts to 128.4 million marks, 3½% on the expenditure and 7% on the total expenditure and loss of interest of the previous years being reckoned as loss of interest for each year. The construction costs of the power station, calculated in this way, amount at the end of 1930 to 564.3 million marks or to 525 millions in round figures, excluding the rapids. According to these calculations the interest charges for the business year would amount to 33.5 million marks and the deficit or net loss to 18.6 millions. It is daring, however, to content oneself for the future with such small depreciation as is provided for in the balance sheet for 1930. Earthworks, dams along the banks, canals etc., indeed, scarcely call for any depreciation as regards durability, so that all the more depreciation falls to the share of buildings, machinery and lines. It should, however, not be ignored that technical progress may in many respects reduce the working value of the power station. There are warning examples in this country of power stations having to be reconstructed, not because they had become unusable in themselves, but on account of their having grown out-of-date and unprofitable. The price of coal, which competes strongly with water-power, has dropped enormously in a short time and has thereby greatly influenced the reliability of the calculations that were taken as a basis ten years ago for the building of Imatra.

The cost of construction amounted to about 525 million marks by the end of 1930.

The question of the extent of depreciation is, however, unimportant, as long as the accountancy of the power station is not so arranged that the interest on the construction costs is charged regularly on definite principles. The same thing applies to the statement that 170 millions were employed for constructing Imatra or 44% of borrowed funds and therefore 56% collected by taxes. It is almost immaterial, what this proportion is, as the State budget of Finland makes no distinction between the conditions for employing borrowed funds or the proceeds of taxation and as the necessary grants for installation were allowed without any conditions or liability in regard to payment of interest.

Comparison with Swedish conditions.

In both cases, as regards depreciation and interest, a comparison with the balance sheets for the waterfalls of the Swedish State is most illuminating. The Swedish power stations had invested capital up to the end of 1929 to a total of 275.5 million crowns (ower 7 times more than Imatra), including 19.7 million crowns for natural assets acquired. Of the grants only 2.1 millions or 0.8% were collected by taxation, free of interest, the rest or 99.2% being borrowed funds on which 5.2% interest was paid or in all 13.4 million crowns. The annual expenditure includes 929,000 crowns in taxes and 3 million crowns in depreciation, equivalent to 1.13% on the

capital invested up to the end of 1928. During the year 1,487.1 million KWH of electric current had been sold, the net income from which was 26.2 million crowns or 1.81 öre per KWH. Altogether the receipts of the power stations amounted to 27.9 million crowns, of which 0.9 million crowns in interest on the renewals fund. The actual annual profit was 175,000 crowns.

The balance sheets of the Swedish power stations give a clear idea of the real position and earning capacity of the concern. They are based throughout on fully approved business principles and do not leave such an item as the interest to be charged, undetermined. The taxpayers see that the revenue of the State has not been invested in an unprofitable business enterprise, but that the selling price for the electric current is sufficient to make income and expenditure balance. In Sweden the average price charged per KWH was more than double the price in Finland. It can scarcely be wrong to draw the conclusion from this that the price of electric power from Imatra has been fixed lower than the actual costs admit of and that this is mainly due to the fact that it was not necessary, in fixing the price, to take a reasonable rate of interest on construction costs into account.

In running the Imatra power station it was not necessary to observe pure business principles and the price of current was fixed below the actual costs.

Owing to this cardinal error the Imatra power station, free as it is from State taxes, besides, can compete successfully with private undertakings, the business of which it harms and cripples, while at the same time the consumption of electric current in South Finland is thereby concentrated more and more in a single power station that can easily be damaged. In case of disturbances incalculable consequences might arise.

With a view to carrying out an offer made to the Lahti municipality the Government recently granted the first million for laying a line to Lahti, which has hitherto bought its electric power from a private power station on the Kymi river. The private line will thus, of course, become unnecessary and at the same time more or less valueless. If such harm were of corresponding benefit to the State, it might, if not approved, at least be understood. The victorious competition of the State is founded, however, as shown above, on incomplete and consequently misleading accountancy. This investment of fresh millions for purposes that have, on the whole, already been provided for, appears all the less fortunate, as it is made at a time, when the balancing of the budget is otherwise also seriously jeopardised.

State competition detrimental to similar private enterprise.

The criticism of the Imatra power station would, however, be one-sided, if it were not pointed out that so far the result of only one full business year is known. It is possible and even probable that the financial result will improve gradually. Only first-class firms were engaged in the work of building. No complaints of any importance have apparently been made of its

technical management; on the contrary, it has been praised as excellent, which is confirmed incidentally by the fact that the estimates of costs have in general proved correct. This is by no means always the case with regard to State enterprise.

It is, however, absolutely necessary not to relinquish the demand that the annual report of the power station should furnish a clear and reliable idea for the taxpayer as to the actual position and annual results of the concern. This should include the charging of the power station with reasonable, previously fixed interest on the costs of construction and sufficiently large depreciation. Another justified demand is that the undertakings of the State should not be allowed, by unscrupulous competition and without due cause, to endeavour to harm sound and useful private enterprise by means of low prices.

THE OUTOKUMPU MINE

After prospecting methodically for two years O. Trüstedt, a mining engineer, discovered the Outokumpu copper deposits in 1910. According to the licensing regulations the State became the half-owner of the discovery. On the strength of the drilling done so far the quantity of ore is estimated at 7—8 million tons, so that with a consumption of 100,000 tons annually, it should last at least 60—70 years. The ore contains, on an average, 4—4.5 % of copper, 28 % of iron and 28 % of sulphur besides small quantities of nickel, zinc etc. Experts disagree, however, as to whether the ore is definitely of a level quality throughout.

About 20 years ago the State became the owner of half of Outokumpu, a copper ore discovety of 7-8 million tons.

The first years after the discovery were devoted to the work of prospecting and experimenting which was at first done with varying success by a private tenant and later by a company specially formed for the purpose.

During that time a narrow-gauge railway, 14 km in length, was built and a small copper works (with an annual production of 150—170 tons). During the war crude pyrites were sold to the pulp mills at good prices. The work was hampered chiefly by the capital being too small and it grew clear by degrees that the position could not be maintained. Finally, negotiations resulted in the Government becoming the sole owner in 1924; for the second half 19,180,000 marks were paid. Altogether the State had by that time invested 29.7 million marks. Subsequently 33.7 million marks were spent on improvements and extensions. In 1929, thanks to unusually favourable conditions, the mine yielded a profit of 21,572,000 marks. Taking into account the loss of interest for 1926—28, calculated at 7 %, the mine had cost the State 49.1 million marks or in round figures 50 millions by the end of 1929.

In 1924 the State bought the other half of the rights of ownership; up to the beginning of 1930 the mine had cost the State about 50 million marks.

According to a summary calculation made in 1925 the cost of building a new and up-to-date copper works would have required the investment of 44 million marks. The old copper works closed down in 1929, notwithstanding their having yielded profits up to that time. The question of building a sulphur dioxide works has also been discussed in a preliminary way. About this, however, no details are known.

According to the original scheme the annual consumption was 100,000 tons. During 1929, the first year after the mine had been modernised, 106,000 tons of ore were brought to the surface at 46: 40 marks. It is proposed to increase the output by 50%. — At the time of writing information is not available as to the results for 1930, but on account of the heavy fall in the price of copper, it is hardly possible to expect any profit for that year.

According to preliminary calculations 60,000 tons of copper concentrate were expected to be obtained from 100,000 tons of ore. From the 102,000 tons of ore that were utilised in 1929, however, only 52,319 tons of concentrate were obtained by a slightly altered method, of which 31,341 tons were table concentrate and 20,978 tons flotation concentrate. According to the scheme the latter was to be sold principally to the Government sulphuric acid works, but on the basis of some roasting experiments the latter refused to use the flotation concentrate which was subsequently exported at very low prices. The sulphuric acid works only use table concentrate at present, which contains more sulphur and which was intended for sale to the local pulp mills. These sales it has also proved impossible to accomplish so far, and the Government sulphuric acid works are consequently the sole local consumer of concentrate. Of the sales in 1929 the share of the sulphuric acid works was 16,530 tons or 33%; the rest was sold to Germany and Sweden.

During its brief period of work the Outokumpu mine has experienced very severe changes of conditions. It is especially to be regretted, besides, that a serious dispute has arisen with the Government sulphuric acid works. It is consequently too soon to calculate the earning capacity of the concern. Considering that the ore is of a comparatively high standard, is easily mined and easy to refine, it may nevertheless, in spite of the disappointments suffered, be assumed that, if carefully and expertly managed, the mine should be capable of securing satisfactory results, even though the golden age of 1929 should not return.

It is too early to estimate the earning capacity of the concern. As the ore is of comparatively high standard, and easily refined, it should be possible to obtain satisfactory results.

THE SULPHURIC ACID AND SUPERPHOSPHATE WORKS

The discovery of the Outokumpu copper pyrites provided an opportunity of manufacturing sulphuric acid in Finland. The idea of combining

a superphosphate works with the acid works then originated in the hope that it would be possible to reduce the importation of this important fertiliser at least to some extent and prevent an undue rise in its price.

The possession of the Outokumpu copper mine by the State led to the resolve in 1919 to found sulphuric acid and superphosphate works.

For this object the Diet granted the first four millions as early as 1919. By the end of 1922, when the factories were started, they had cost 43.3 million marks. Later 25.1 millions were employed in extensions and improvements, besides which the factories received 14 million marks of working capital out of State funds. As depreciation has been undertaken to the extent of 10.4 million marks, the works are valued in the books at 58 millions, or including working capital, at 72 millions. If the loss of interest caused to the State by these investments is taken into account, the debit balance of the works is considerably heavier. In this connection it should be noted that the sulphuric acid works occupy a different position from the other industrial undertakings of the State by paying interest on part of the State funds invested, at present about 30.7 million marks, calculated at the lowest rate of the Bank of Finland. These payments of interest amounted to about 9.2 million marks by the end of 1929. — The profit and loss accounts of the factories show a profit during four years of altogether 5,495,625 marks and during two years a loss of altogether 5,007,835 marks or, consequently, a net profit of 487,790 marks. If the works are charged 7% interest annually on the State funds employed and the expenditure on interest already mentioned and the net profit are credited, the loss of interest to the State amounts to about 14 million marks. If compound interest is charged, the loss of interest will be 6.3 millions more. The works had a total income of about 1,960,000 marks in interest for 1924—29, which was not included in the calculations, as it may be assumed that this income arose, at any rate partially, through their working. Allowance was also not made for damage caused by a fire in 1921, the extent of which was stated in the Government proposals to be 4,030,000 marks (according to later information 2,041,780 marks) and which was not debited to the machinery account of the works.

The works, including working capital, are valued in the books at 72 million marks.

According to calculations made on these lines the amount due to the State is 86 or 92 million marks. The profit for 1930 was about 100,000 marks.

The productive capacity of the sulphuric acid works was 10—11,000 kg during the first few years and 22,000 kg since 1928, while the actual output in 1929 was 19,000 kg. The cost of production per kg of acid has not dropped, in spite of increased production, more than 10 penni (51 penni per kg in 1929). — The output of the superphosphate works fell off uninterruptedly from 25,200 tons in 1924 to 19,700 tons in 1927. After the extensions the output was 46,543 tons in 1928 and 40,050 tons in 1929. The

cost of production per 100 kg dropped from 66: 62 marks in 1926 to 60: 18 marks in 1929.

In 1929 muriatic acid works were built in connection with the superphosphate works, the cost of construction amounting to 2,762,500 marks.

The factories have up to the present worked successfully in so far as the imports of foreign superphosphates have been reduced in a very great measure; in 1929 they were below 20% of the imports for 1926. The desired object was also attained in this respect that the price of superphosphates was low in comparison with prices current in neighbouring countries. The importance of the acid works for the Army cannot be denied and is therefore not a matter for criticism.

From a financial point of view, on the contrary, the result has not been satisfactory. A net surplus of half a million for seven years' work is of no practical importance, to say nothing of the loss of interest suffered by the State. What is worse, the future running of the works does not look promising either. The demand for superphosphates is obviously falling off, this being due, in addition to hard times, to the fact that some farmers have begun to avoid this fertiliser, when it was asserted that it was likely to increase the acid contents of the soil in a detrimental way. In 1926, for instance, about 80,000 tons of it were sold in Finland, but only 44,000 tons in 1929. The attempt of the superphosphate works to produce goods with a smaller acid content (»Kotka phosphates») and to popularise crude phosphates as a substitute for superphosphates deserves recognition, of course, but has, at least hitherto, not been crowned with any success worth mentioning. Such fertilisers appear to be utilised very little except in Finland.

The works have achieved a large turnover, but the financial results have not been satisfactory.

The dispute that arose with the management of the Outokumpu mine, the real cause of which has not been established, has already been referred to. In any case it has brought disappointment to the sulphuric acid works, too, for it was not possible to utilise the expensive machinery purchased for employing the concentrate, as had been intended.

It seems strange, by the way, that the management of two such interdependent industrial concerns as Outokumpu and the sulphuric acid works should be subject to different departments, the former to the Ministry of Commerce and Industry, and the latter to the Ministry of Agriculture. Presumably, if they were placed under the same control, the cause of differences would be removed and the running of the concerns would be made easier.

THE MARGARINE FACTORY

Notwithstanding its small size — the balance sheet for 1930 totals 5.8

million marks — the work of this factory presents many points of interest. It is the only one of the industrial undertakings of the State, the balance sheet of which is drawn up on proper business principles. It regularly sets aside 10% interest on the State funds invested. In spite of this it has earned the full value of its assets and in addition a credit balance at the Treasury of almost three million marks, and its annual report and balance sheet are clear, drawn up consistently from year to year and instructive in spite of their condensed form. This is not surprising, seeing that our present Prime Minister, who is known to be an expert accountant, is a member of the board of management.

The State margarine factory, has achieved good financial results. The chief reason is the exclusive position of the factory in supplying some Government institutions.

The factory originated through the Prisons Board purchasing an old margarine factory in Turku (Åbo) in 1922 for 275,000 marks. Before the year was out, however, the factory proved so defective that the Diet had to be urgently petitioned for funds for »removing» the factory to Helsinki (Helsingfors). This mode of expression was, indeed, a form of poetic licence, for it was really a case of building an entirely new factory, for which, besides 750,000 marks of »removal» funds, 1½ million marks of the profits of the factory were employed on the board's own responsibility. The factory is now under the control of the Ministry of Agriculture.

The margarine sales have risen from 553 tons in 1925 to 1,064 tons in 1930, while at the same time the cost of production has dropped from 13: 60 to 9: 16 marks per kg. The profit for 1930 was 1,153,000 marks.

The good financial results of the factory are due, besides the ability of the management, chiefly to the fact that it had the virtual monopoly of supplying the Army, prisons and State hospitals. Thus, over 85% of its output in 1930, for instance, was assured of a market at reasonable prices and without advertising.

It seems rather surprising, therefore, that the Diet should have treated this concern, that was working successfully, in a very stepmotherly manner. For instance, a grant of 450,000 marks asked for for extensions was refused and later the introduction of butter instead of margarine was decreed in the Army. The factory thus lost over 40% of its consumers at a blow and it is uncertain, whether new restrictions may perhaps be made. This is a typical instance of the inconsistency of our national economy.

THE SPIRIT MONOPOLY

The value of the »spirit monopoly's» factories, stocks and land was estimated at the end of 1924 at 28.8 million marks. For extensions, repairs and additions, which increased the value of the property, 19.5 millions had,

it was stated, been expended up to the end of 1929. There were stocks and cash at the same date to a value of altogether 27.3 million marks, so that the total funds invested in the business until then amounted to about 75.5 millions. The sales in 1929 amounted to 72.3 million marks and the working costs, excluding expenditure on landed property, to 44.1 millions. The surplus for the year was thus 28.2 million marks. The quantity of alcoholic beverages confiscated and turned over to the »spirit monopoly» amounted — converted into 100% spirits — to 969,761 litres, the maximum so far. Sales amounted to 1,403,000 litres of spirits (100%) and 220,000 litres of alcoholic beverages and wine. Among the items of expenditure 624,800 marks should be noted for the cost of controlling the consumption of alcohol and in regard to the effectiveness of the control there should not be much cause for complaint. The surplus derived from the sale of alcoholic beverages was reduced in two years (1927—29) owing to the increasingly strict control, from 42.5 millions to 23.1 millions or 45%. It is well known that both the adherents and opponents of prohibition are agreed that the main object has not been achieved by control.

In the State spirit monopoly altogether about 75 mill. mks. have been invested.

In addition to securing, manufacturing and selling alcoholic beverages the spirit monopoly carries on the manufacture of yeast, vinegar and various chemical products in its factories. Yeast, which was formerly obtained as a by-product in the distilleries, is now, with the exception of small quantities, produced separately from the production of spirits and is independent of it. The suitable production of spirits, therefore, does not necessitate the manufacture of yeast, any more than of the other products mentioned. Keen competition with private manufacturers of yeast has, however, gradually forced down the price to a marked degree, which has resulted in the surplus derived from the manufacture of yeast etc. also to decline appreciably; in two years (1927—29) this surplus was reduced from 8.6 million marks to 5.5 millions or by 36%, although the quantity of yeast sold during the same period increased by 12%. As the fixing of prices is in this case, apparently, also based on the misleading figures of the cameral system of accountancy, it has called forth justifiable displeasure. As a private factory, producing yeast from sulphite lyes, has, in spite of everything, proved able to face the competition, an agreement has now been concluded with the private undertakings regarding the joint fixing of prices.

The spirit monopoly also manufactures yeast etc. in keen competition with private enterprise.

THE ARMY FACTORIES

These factories, which include a powder works, a cartridge factory, a rifle factory, an aircraft works, shipyard and Army tailors' shops, form a

separate group which is beyond the scope of the present review. Their working must be examined chiefly from a totally different point of view than that of profit, and there is no safe basis for a comparison with the other industrial undertakings of the State, already on account of a considerable part of the assets of these factories consisting of war booty, the value of which is unknown.

Among the other concerns of the State that resemble factories, the Government Printing works and the blueprinting and lithographic printing works of the Survey Department should be mentioned. In the present instance there seems to be no need to go into details of their working. It need only be stated that the expenditure of the former in 1929 amounted to about 11.1 million marks and of the latter to 0.6 millions. — More important are

THE PRISON WORKSHOPS

with their numerous sections. Their very varied and carefully made goods include, chiefly, furniture and woven goods (cloth, carpets, rugs etc.). The sales of the workshops in 1929 amounted to about 29.2 million marks, which equals 35 % of the annual expenditure of the Prisons Board. It is maintained that there is no intention of attempting to interfere with private firms by means of cheap prices. It is not easy to say, to what extent this has been carried out in practice, but it is surely obvious that a quantity of goods amounting to tens of millions of marks in value, cannot fail to have an adverse influence on the turnover of private firms. The effect of this competition, harmful from a social point of view, is mitigated partly by the removal of prisoners to the work of draining bogs and other outdoor labour, which is growing in extent. That this method answers its purpose is proved incontrovertibly, for instance, by the fine and extensive fields of Sukeva and Konnunsuo. Nevertheless, this method of employing prisoners also has its drawbacks. Farmers in the vicinity of the prison settlements already complain that they have some difficulty in finding a market for their hay and oats, as buyers would rather purchase from the settlements, where they obtain supplies in large lots and ready sorted, than waste time in valuing the small and varied offers of the peasants. In this instance, too, prison labour exhibits its unhealthy influence as a drag on free labour. The only solution of the problem is, no doubt, the reduction of crime — a goal that appears at present as a question of the future.

The Prison Workshops make and sell furniture and woven goods to a value of tens of millions of marks, apparently not without harm to private trade.

The State funds invested in the companies and undertakings described above, amount to the following sums in round figures:

OY Enso-Gutzeit	732	million	marks
AB Tornator	60	»	»
State sawmills and pulp mill	186	»	»
Imatra power station	525	»	»
Outokumpu mine	49	»	»
Sulphuric acid and superphosphate works	86	»	»
Margarine factory	5	»	»
Spirit monopoly	75	»	»
Total	*1 718*	*million*	*marks*

Over 1,700 mill. mks. have been invested in the various undertakings and companies of the State to date.

The figures are not uniform, seeing that in the case of the State sawmills the loss of interest has not been taken into account, because a number of circumstances makes their calculation uncertain. If factories subject to the Ministry of Defence are included, the amount invested is close on 2 thousand million marks.

It is much more difficult to criticise the different undertakings on account of their accountancy not being uniform, which is not a matt erof much astonishment, if it is considered that in an administrative sense the industrial undertakings are distributed among five different departments. In some of the concerns (limited liability companies and the margarine factory) ordinary business accountancy is practised; in the spirit monopoly the cameral system of bookkeeping with equal consistency; the rest are between the two. Depreciation is calculated on varying principles and is entered in the books in different ways. A comparison of the annual reports shows that they vary very much in their form. In regard to earnings the spirit monopoly and the margarine factory are, naturally, perfectly secure thanks to their monopolising position. The sulphuric acid works appear to be weakest, at any rate at present. The woodworking concerns are experiencing hard times owing to the general depression and have so far not been able to benefit the national economy. The Imatra power station and the Outokumpu mine should have a chance of success and even a good chance — in the future. Up to the present State undertakings in the sphere of industry have provided more worry than joy, at least from a financial point of view.

Even in regard to administration there are great differences. The limited liability companies are formally, though not actually independent of the Government authorities. Most of the other concerns are managed by their own boards of directors, whom the ministry concerned appoints at its own discretion for a certain time. The sawmills and pulp mill of the Department of Forestry are in a distinctly antiquated and bureaucratic position.

It would undoubtedly be an advantage, both to the concerns and to so-

ciety, if it was determined to make the industrial undertakings of the State more independent, so that they should be able to adapt themselves more easily to the conditions of trade. Above all, the cameral system of bookkeeping should be abandoned in every respect, as it is the chief error in the present system and makes it impossible to obtain a correct idea of the activity and position of the undertaking concerned. The cameral system of bookkeeping is intended for Government departments, but it is vain to try and adapt it to cases governed by the law of supply and demand.

It would be advantageous both for the concerns and the State, if the industrial undertakings of the State could be made independent; there are, however, great difficulties in the way.

This object could probably be attained most easily by converting the industrial undertakings of the State into limited liability companies. The Government recently submitted a bill to the Diet concerning Imatra and Outokumpu in this respect, but the proposal was defeated in the Diet. It must be admitted, too, that in the case of a company in which the State owns all the shares except two, it might easily happen that the managing director would in actual fact become autocratic, for a person owning a thousand marks share — perhaps only nominally — in a company of several million marks, is not so closely connected with the concern that his help and support could rightly be demanded in a sufficient measure. Salary is, of course, another matter, but that is paid in any case.

An intelligent and industrious minister can, of course, show much interest in his factory, but he seldom gets so far during his short term of office that he can interfere independently, when necessary. Unless he is something out of the ordinary, he had better not attempt it. The managing director is stronger than he. A minister is deserving of gratitude, if he is able to prevent party politics doing harm. An ideal form, from the point of view of the State, would be a company of the Tornator type, in which the private shareholders have some say in the matter and watch the management of the concern in their own interests, but there are peculiar difficulties in forming such a company. The extension of State activity to industry has so far always proved a problem as difficult of solution as the problem of the tripartition of the angle.

CONCLUSION

Should the State, then, have abstained from these undertakings that have claimed such great sacrifices, but have produced such poor results? In my opinion the answer cannot be the same in each case.

Should the State have avoided these business concerns?

An attempt had been made to organise the running of the *Outokumpu* mine with a foreign company as tenant, but in this way sufficient capital was not available. When the impossibility of maintaining the position be-

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came clear, one of the oldest and wealthiest firms in the country was the partner of the State in the mine. It was not willing to engage in the work of extension that would have been necessary, if the work were to have been carried on. Therefore the alternatives were: either to give up this promising concern, that was important for the independence of the country, or else to bring it up to date by investing the capital required. The Government and the Diet chose the latter alternative, and at any rate up to the present it cannot be asserted that the decision was wrong.

The possession of Outokumpu had already earlier led to the establishment of the *sulphuric acid and superphosphate works*. It was hoped that they would benefit agriculture considerably. Their existence was directly dependent on the mine not remaining idle, and it would certainly not have been possible to obtain sufficient private capital for their construction. It is true that the running of the works has caused very considerable disappointment, but the products have been excellent in quality and cheap, even too cheap from the point of view of the revenue of the State. However, everyone has been able to take advantage of the low prices by securing these products.

With regard to the *Imatra power station* the position is different. It is an undoubted fact that sufficient Finnish capital could not have been secured for building it — foreign capital would probably not even have been considered desirable by many people in this instance. Therefore it was the same case of »either — or» as was the case about a year later in connection with the Outokumpu question. But besides Imatra requiring so much more capital, there was this great difference that the harnessing of the rapids unavoidably led to severe and uneven competition with already existing private undertakings, competition that might easily lead to a considerable loss of property. The owners of such property are justified in complaining that their financial position is endangered directly by the power station to the building of which they were obliged to contribute heavy taxes. In addition, the taxpayers who live outside the sphere of Imatra's operations can complain, as long as the power station does not pay, regarded as an ordinary business concern, that they have to make sacrifices for an undertaking that does not benefit them either directly or indirectly.

In several cases, in which important public interests were at stake, private capital could not have been secured.

In any case — Imatra had to be built sooner or later. No one but the State could have done it. It will be evident in the near future, whether the power station is able to fulfil the hopes placed on it without harming others.

The largest undertaking of the State in the sphere of industry is the purchase of *OY Enso-Gutzeit*. This has been exposed to severe condemnation, chiefly because, owing to the inflation that set in shortly afterwards, the

In some cases the State has created severe, uneven competition with existing private undertakings.

business cost so much more than had been estimated. It was, however, not taken into consideration sufficiently that the monetary value of the real estate of the company was increased at the same time. Nevertheless, there are many reasons for supposing that it would have been better, if the State had sold the industrial undertakings to private persons and had only retained the land for itself, the possession of which was the most important argument for the Diet in agreeing to the purchase. An opportunity of this kind actually occurred a few months after the purchase had been concluded. By seizing the opportunity the Government would without sacrifice have been relieved of a great risk and of a task that was really not fitting for it.

We have seen that the initiative of the State, at least in the case of Imatra and Outokumpu (and likewise the sulphuric acid works) is explained by the shortage of private capital in the country. It is needless to discuss the suitability of these concerns to their purpose, as the decision arrived at was the only possible one. The same view must be taken of the acquisition of Enso-Gutzeit and Tornator and, it seems, must be approved in its main features. These investments must be treated on a par with the construction of State railways and canals, works that would have been postponed to the distant future in the absence of Government initiative and would certainly have been left undone to a great extent. The same may be said of the improvements of our roads during the last ten years by which they are put into a condition corresponding to present-day requirements. The State had to pay dearly, but no other effectual mode of procedure was apparently available. It should be realised that in a poor country the State is saddled with the care of many things that are elsewhere left to private enterprise.

But if this is so, it is the duty of the organs of Government to adopt an attitude of severer criticism towards schemes that imply the extension of State activity to spheres in which it is unnecessary and in which, on account of its peculiar and artificial form, it soon finds itself in great difficulty. In Finland private enterprise would undoubtedly have supplied the demand for *margarine* and *yeast* without State assistance. The interference of the State was as unnecessary in this case as, for instance, in the boot and shoe or textile trade. In effect it has proved comparatively slight and, at all events, it has increased the revenue by a few millions.

State competition in the woodworking industry has proved an expensive and useless experiment.

State competition with regard to the *woodworking* industry, in which it tried to play a leading part, has been most disastrous. It is just in this sphere that private enterprise has been too great rather than too small. The State has not been able to create anything new of importance and has so far only caused

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itself losses. It has been an expensive and useless experiment that greatly disturbs our most important exporting industry.

It is really high time that the business world should rid itself of the mentality that always and everywhere looks for State aid without wishing to understand that thereby in one way or another the socialising of the realm is advanced and free labour and responsibility, essential conditions of the healthy life of a nation, are weakened. The endeavour to transfer means of production to the State are the fundamental idea of Marxism. It is a regrettable fact that business circles so often help to encourage this mentality, even when there is no compelling reason for it.

We should rid ourselves of the mentality that always and everywhere tries to base itself on State aid, and recognise that responsibility and free labour are fundamental conditions of the healthy life of a nation.

Cannot our present troubles make it easier for us to grasp these simple truths? They would act refreshingly, not only in dealing with the questions discussed here. They would, perhaps, release us to some extent from those chains of sentimentality and unrestrained philanthropy that have for a long time impeded the balancing of our State finances.

AN INDUSTRIAL JUBILEE

75 YEARS SINCE TAMMERFORS LINNE- OCH JERN-MANUFAKTUR AKTIE-BOLAG WAS FOUNDED

A jubilee that is exceptional for industrial conditions in Finland, is to be celebrated this year by Tammerfors Linne- och Jern-Manufaktur Aktie-Bolag, one of the largest industrial concerns in Finland and the most varied of them all.

On July 12th, 1856, a charter was granted to Mr Adolf Törngren for building and working a mill on the Tampere (Tammerfors) river for manufacturing all kinds of yarn and cloth of flax and hemp. This charter and the mill built on the strength of it may be regarded as the cornerstone of the company established in 1861. The company was started 70 years ago and seventyfive years have now elapsed since the foundation of its principal business was laid.

75 years ago a charter was granted for the mill that forms the central part of the works of Tammerfors Linne. och Jern-Manufaktur Aktie-Bolag.

The very unusual combination in the scheme of the company — linen and iron — is explained historically by the fact that on the site, on which the company's buildings stand in Tampere, an undertaking had erected a blast furnace in connection with a foundry in 1843—44. The output was at first small and not very promising, when in the middle of the 1850's the ironworks were taken over by Gustaf Adolf Wasastjerna with the purpose of building up a large iron industry. A scheme was drawn up with Adolf Törngren for establishing a linen mill which the latter was to take over. It was the time immediately after the Crimean War, marked by extraordinary industrial activity, and the starting of the works represented in many respects the beginning of a period of intensive industrial enterprise. It has been calculated that in 1856—1858 no less than about 12,000,000 marks were invested in factory construction throughout the country, an imposing sum for those times.

The idea of the industrial production of linen in Tampere was not a novel one. The mercantile system of the era of liberty had already made grants for spinning schools in Tampere among other places. It was said of Tampere that »as this town lies in the centre of Finland's principal flax district, where there was no lack of food, linen weaving mills should be started

and encouraged there». Natural resources were available, capital and a spirit of enterprise likewise, and the works were built, while at the same time a machine shop was added to the existing iron works. The land, 200,000 sq. metres in area, and a share in the rapids were rented and subsequently purchased in 1892.

The idea of the industrial treatment of flax was not new, and already in 1800 Porthan pointed to Tampere — „in the centre of Finland's principal flax district" — as a suitable place of production.

It was not long, however, before a setback was experienced. The linen mill was completed by 1859, but conditions had changed: the times had grown worse and it was difficult to obtain credit. No return was received on the invested capital and the working capital was too small. It was, perhaps, chiefly for this reason that the two founders decided to form a company in order to attract outside capital to the business and announced an issue of shares. The nominal capital of the company, unusually large for that time, was fixed at 1 million silver roubles or 4 million marks. The issue failed, however; of the 1,100 shares offered at 250 silver roubles each the public only subscribed for about 90 shares. The company was, nevertheless, established on March 4th, 1861, and in taking over the property the latter was valued at the equivalent of 2,944,000 marks. During the next five years the indebtedness of the company grew at a terrifying pace and its position seemed to be undermined; the company was liable for the debts of the two founders — both of whom subsequently went into bankruptcy — and had heavy direct claims against one of them, besides. In 1866 a new board of directors was elected under the chairmanship of lecturer, later professor Alfr. Kihlman, who retained the post until 1903.

The concern had to struggle against great difficulties at first, partly on account of lack of funds — in spite of the founders' appeal to „those who wished to support the national movement and flax cultivation."

The new board had to steer the company through all kinds of difficulties under heavy conditions: fluctuations in the rouble exchange and reduced opportunities of sales to Russia — on which country up to 70% of the linen sales were based, — trouble in manufacturing, including high prices for raw flax and poor quality, an oppressive burden of interest, a crying shortage of working capital and finally a heavy burden of expenditure in connection with the *Sandviken dockyard*. The latter had been taken over in settlement of Mr Törngren's debt to the company and was only sold in 1880 at a considerable loss. In a few years the position became so acute that the question of bankruptcy was discussed. However, with the help of the banks — the Bank of Finland and Föreningsbanken i Finland — the situation was consolidated and in the beginning of the 1870's the position began to improve by degrees. The business gave a profit and, excepting the critical years after the Russo-Turkish war, progress thenceforward was steady along calmer and surer lines.

Thanks to the banks' „clear view of the demands of the times" the positionwas consolidated in the beginning of the 1870's since then progress has been steady.

It would take too long to describe this progress in detail. It should be mentioned, however, that in 1883 the linen mill was damaged seriously by fire, but was soon rebuilt in a more up-to-date style. The machinery has since

been increased very regularly — as against the 5,000 spindles and 100 looms, approximately, the mill has now about 16,000 spindles and 400 looms. The old and uneconomical power station in Tampere was replaced in 1914—1916 by a new and up-to-date one, whereby an improvement of 73 % was obtained in the supply of power. The power station and pulp mill turbines develop about 5,000 HP. The machine shop has kept abreast of the times and has undergone many thorough extensions. The old blast furnace and sawmill were given up, as they did not pay. In 1899 a new and important manufacture was started: locomotives. A Government Commission had found it desirable that the manufacture of locomotives should be started in Finland and was of the opinion that the Government should make some sacrifices for this purpose.

Both the textile and machinery departments have been considerably enlarged.

As an indication of the difficulties the company had to face during the hard years it may be mentioned that credit for current requirements could only be obtained on the personal surety of the members of the board of directors and that several shareholders established a separate company for financing the purchase of flax and thus ensured the supply of raw material for the linen mill. The founding of the *Tammerfors pulp mill* in 1871 was of a similar nature. In this case, too, a company was formed by several shareholders that rented premises and water power from the linen mill. When, by means of the profits of the pulp mill, interest had been paid to the shareholders on the capital invested and the whole capital advanced for construction had been repaid, the pulp mill, rebuilt in stone, was transferred in 1881 to the linen company, by which means its business was extended to the sphere of the woodworking industry. The pulp mill was subsequently rebuilt almost entirely in 1927—29 and its speciality, brown polished cardboard »Tammerfors Leather Boards», enjoys a high reputation.

In 1881 the business was extended by taking over the Tammerfors pulp mill.

A further step in this direction was taken in 1887, when the *Ingerois pulp mill* and about half of the Anjala rapids in the Kymi river were acquired. The pulp mill was destroyed later by fire, was rebuilt and was altered completely in 1920—23, when an up-to-date water-power station of about 20,000 HP was also constructed, at that time the largest in the country.

In 1887 the Ingerois pulp mill and the water power connected with it in Kymi were added to the concern.

In this connection the company entered *Sydfinska Kraft A.B.* — in which the Helsinki (Helsingfors) and Kotka municipalities were shareholders — a distributing company supplying electric current to those towns and Borgå and other places from Inkeroinen among other sources; since 1928 the linen company has a controlling interest in it. In 1930 Sydfinska Kraft A.B. and the Insulite Company of Finland O.Y. founded a company, *O.Y. Abborfors A.B.*, on equal terms for utilising the great power resources of Abborfors at the western mouth of the river Kymi on the Gulf of Finland. This new power

Tammerfors Linne- och Jern is now an important supplier of electric power.

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station which should be completed this summer, is constructed for a maximum load of about 36,000 HP.

In many respects patriotic motives played a part in the founding of the linen mill. The local cultivation of flax has from the first been dear to the heart of the company and has caused many very considerable pecuniary sacrifices. Flax dressing machinery was imported as an experiment, the *Hankala swingle works* were built in Koski in the middle of the 1880's and finally in 1920 a *flax soaking establishment* was built in *Messukylä* near Tampere. Educational work in flax cultivation has also been carried on and a flax exchange office was established. The proportion of Finnish-grown flax in the manufacture, which has, of course, varied slightly according to the quality and quantity of the crop, has of late amounted to about 50%.

The company greatly encourages local flax growing.

From the first the company has sacrificed considerable sums for the welfare of its workpeople. In 1865 already the question was discussed of starting a pensions and benefit fund for workpeople and of organising school teaching for the children of workmen. The first national school in Tampere was built by the company, funds of various kinds were established at the different works, clubs were built and workmen's houses, e.g., the beautiful colony in the »Petsamo» suburb of Tampere. The number of workpeople, excluding forest workmen, is about 2,500.

The output of the company was at first confined to linen and iron, but later increased in variety and now includes wet and dry pulp, white and brown cardboard and electric power. We give a few figures:

The *linen mill* is probably one of the most varied in existence. The manufacture includes yarn and woven goods of linen, hemp and jute — from the roughest packing cloth and yarn to the finest bobbin yarn and damask towels. The Russian market has been lost, it is true, but the consumption in Finland has grown almost to the same extent, while exports, principally to Scandinavia, do not exceed a couple of million marks at present out of total sales of 60 to 70 million marks.

The annual sales of the linen mill amount to 60-70 mill. mks., of the machinery works to 40-50 millions; the output of cardboard and wood-pulp is about 30,000 tons; the power station generates about 100 million kwh.

The *machinery works* have gone over from their original production of steam-engines and agricultural machinery, steamers, farm tools etc. to their present production: they specialise in water turbines, woodworking machinery of various kinds, locomotives etc. The largest turbines supplied by the works are the Imatra power station's four 27,000 HP aggregates. The total horsepower of the turbines manufactured by the works — 1,682 in number — amounts to 288,111 HP. In all 444 locomotives have been delivered up to the present of which 378 were supplied to the State railways. The annual production amounts to 40—50 million marks.

Tammerfors pulp mill has a capacity of about 3,500 tons of brown cardboard, the *Ingerois pulp mill* produces about 25,000 tons of pasteboard and woodpulp, besides which the Ingerois power station generated about 100,000,000 kwh, about half of which was for distribution.

At present Tammerfors Linne och Jern is one of the largest industrial concerns in Finland. The capital is 100 mill. mks., its own funds about 150 millions, while the premises and liquid assets are booked at about 220 millions net.

The capital of the company that was nominally 4 million marks at the start — of which, however, no more than 3 millions were ever paid up — was increased by repeated issues, on the last occasion in 1928, and now amounts to 100 million marks. According to the balance sheet for 1930 the company's own funds, excluding the depreciation funds, amount to 151 million marks, creditors to 70 millions, while the premises and forests are valued in the books at a net amount of 122 million marks and liquid assets at 99 million marks.

During the past decades the company has successfully overcome difficulties of various kinds. At first the strained financial position represented an imminent danger and exporting to Russia was connected with risks of many kinds. A thorough reorganisation of sales had to be made, when the Russian market was lost practically entirely on Finland becoming independent. Market conditions for the different branches of the company varied, but it was this manysidedness that proved to be a source of strength. True to its binding traditions and with a name well known in Finland and beyond its frontiers, the company celebrates its jubilee well equipped in its various spheres of activity.

HOME PRODUCTION AND TRADE

When Unitas started drawing up its series of indices of home production and home trade some time ago, materials were not available for any length of time. The index figures could therefore not be based on the corresponding monthly figures in the initial year (1926), but had to be based on the corresponding *average monthly figures*. In this way, it is true, errors in the series were avoided on account of abnormal variations in the respective monthly figures for the basic year, but the index figures expressed by this means not only the course of trade conditions, but also seasonal fluctuations.

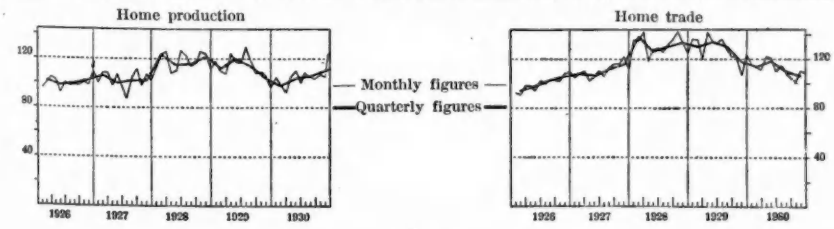
The Unitas indices, hitherto calculated on the basis of the annual figures for 1926, are now calculated on the basis of monthly figures.

At present there is uniform material for several years (1926—1930), so that it seems appropriate to alter the calculations of indices, taking the *corresponding monthly figures* for 1926 as a basis. In order to eliminate the accidental variations referred to, the monthly figures for the basic year have been adjusted to the division of home production and home trade according to months during the whole period of 1926—1930.

As these series of indices appear to have been used extensively, it seems suitable for us to publish the series calculated afresh in this way since 1926.

By the change in calculation seasonal variations are eliminated and the development of trade conditions is made clearer.

	Home production						Home trade						
	1926	1927	1928	1929	1930	1931	1926	1927	1928	1929	1930	1931	
Jan.	97	100	117	119	105	85	92	105	135	136	116	91	Jan.
Feb.	99	108	124	110	98	79	91	109	135	136	114	85	Feb.
Mch.	105	108	126	108	92	77	98	111	142	120	112	91	Mch.
Apl.	101	98	109	125	105		98	102	119	141	123		Apl.
May	92	107	111	118	110		94	108	127	133	121		May
June	100	97	126	117	100		103	111	128	130	110		June
July	98	87	122	130	108		100	106	126	136	114		July
Aug.	99	104	113	119	106		102	112	133	128	109		Aug.
Sept.	99	112	118	108	104		103	116	134	122	105		Sept.
Oct.	101	98	127	109	107		101	116	142	122	102		Oct.
Nov.	99	107	125	106	105		108	122	132	107	110		Nov.
Dec.	109	103	112	95	123		109	111	125	124	109		Dec.
I quart.	101	106	123	112	98	80	94	109	138	130	114	89	I quart.
II »	98	100	115	120	105		98	107	125	135	118		II »
III »	99	102	117	113	106		102	112	131	129	109		III »
IV »	102	103	122	104	111		106	116	134	118	107		IV »
Wholeyear	*100*	*102*	*119*	*114*	*101*		*100*	*111*	*132*	*128*	*112*		*Wholeyear*



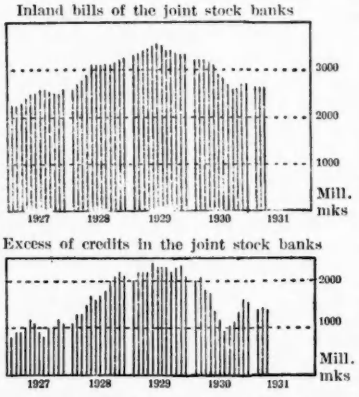
A GLANCE AT THE FIRST QUARTER

In Finland the position has in general grown worse during the first quarter.

The economic position has become still worse during the last few months. Home production and internal trade return lower figures for the turnover than for several years, while at the same time protested bills, bankruptcies and public auctions of real estate have reached a maximum. The decreasing purchasing power has reduced imports very much, but also the revenue of the State, endangering the equilibrium of the national economy. In the case of the exporting industries the pressure of Russian competition and a further fall in prices abroad still continue.

THE MONEY MARKET. The balance sheets of our joint stock banks afford evidence of the continued depression. The total balance sheets at the end of March this year had dropped to 10,477 million marks from 11,016 millions a year ago and 11,083 millions for the year before that. During the first quarter the banks' holdings of internal bills were reduced by 61 million marks, while their total credits fell off by 23 millions and the excess of credits by 132 millions. As a rule, however, the development had been in the opposite direction: e.g., during the first quarter of the previous five years the bill portfolio grew by an average of 82 million marks and the total credits by 288 millions. — The Bank of Finland has also reduced its credits, direct credits by 64 millions and re-discounted bills by 47 million marks.

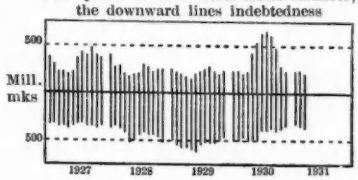
The joint stock banks and the Bank of Finland have reduced credits.



Against this contraction of lending business there is a slow growth of the funds of the public in the banks. During the quarter deposits in the joint stock banks increased by 114 million marks and depositors' balances in the

savings banks and savings funds by 60 millions. The increase was, indeed, considerably smaller than it usually is at this time of year, yet nevertheless a little larger than for the corresponding period of last year, when it amounted to 151 million marks.

Foreign business of the joint stock banks
The upward lines indicate credit balances, the downward lines indebtedness



The accumulation of capital in the banks has continued.

Credits of the Bank of Finland

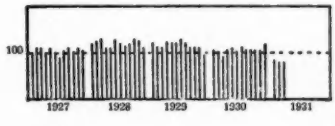
The banking figures for the first quarter do not indicate any palpable change in the general position, but in can be stated that the credit resources of the banks have grown. It should also be noted that by striving for an agreement among the different classes of financial institutions with a view to regulating rates of interest, the banks have endeavoured to improve interest conditions as far as they could. It seems likely that an agreement will be concluded, to come into force from July 1st. Its object is to take the rates of the joint stock banks for deposits as a basis for the rates of the other financial establishments, that institutions, whose deposits exceed 30 million marks, should be allowed to pay not more than 1/4% and smaller institutions not more than 1/2% more than the rates of the joint stock banks.

Financial institutions accepting deposits have proposed uniform rates of interest.

INDUSTRY. In *local industry* the depression has restricted sales more and more. To avoid the accumulation of stocks it was consequently necessary to decrease production considerably below normal. The Unitas index gives the following picture of the position.

Index of production in local industry; converted monthly figures for 1926=100

	1928	1929	1930	1931
January	117	119	105	85
February	124	110	98	79
March	126	108	92	77
I quarter	*123*	*112*	*98*	*80*

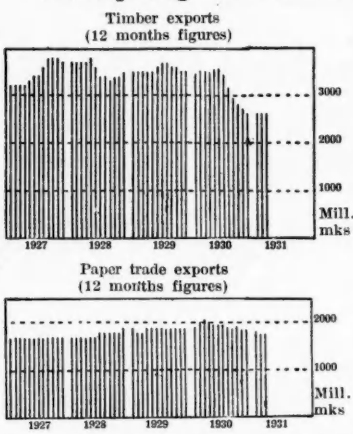


Local industry is working under the influence of reduced demand and increased difficulties of payment; production has therefore been restricted still further.

During the first quarter of this year the output was, therefore, about 20% less than last year. The reduction is partly due to the fall in prices and partly to the limitation of output. The falling off was greatest in the building materials and metal industries, less in the leather industry and foodstuffs industry; in the manufacture of textiles a remarkable stability seems to have set in. — The ability of customers to meet their accounts is generally reported to have grown worse.

The *exporting industries* are also working under depressing conditions. The sales of sawn timber for shipment this season amounted at the end of March to only 175,000 stds compared with 420,000 and 600,000 in the two previous years. The output for the quarter has decreased this year in comparison with last year from 37,000 to 31,000 m³ in the case of plywood, but has increased for woodpulp from 44 to 52 million kg, for cellulose from 157 to 174 million kg and for paper from 78 to 79 million kg. During the quarter the stock of orders for products of the paper trade was slightly reduced, but nevertheless covered 6 months' production for woodpulp, 7 for cellulose, 8 for newsprint paper and 3 for other paper.

The exporting industries also feel the depression more.



The state of the labour market has now grown worse than it has ever been during those few years for which data are available. The office for social research and statistics estimates the number of workpeople in industry and handicraft put out of work since last autumn, at 60,000—70,000. A great many of these have gone over to other work or obtained temporary employment, but the number of actual unemployed is nevertheless uncommonly large at present. — The development of the position is illustrated by the following figures that indicate the proportionate reduction during the first quarter in the number of working hours.

The labour market during the first quarter of 1931;
reduction in total number of working hours, %

	Since first quarter 1926	Since first quarter 1930	Since fourth quarter, 1930
Glass, stone etc. industry	19	17	12
Metal industry	24	26	10
Chemical industry	+17	+ 2	10
Foodstuffs industry	7	5	5
Leather industry	19	20	24
Textile industry	20	+ 7	12
Paper industry	17	15	10
Sawmill industry	23	14	7
Total	*20*	*11*	*10*

The degree of employment in industry has been further reduced. Since the previous quarter the number of workmen has dropped 8 %, the number of working hours 10 %.

Since the previous quarter the number of workpeople has dropped 8% and the number of working hours 10%. In local industry the number of workpeople only dropped 6%, but the number of working hours 11%; the position therefore made it possible to retain workmen, though for shorter

hours. In the exporting industries the reduction was about 9% in the case of both workmen and working hours.

THE STOCK EXCHANGE. The fresh drop in prices that occurred at the end of 1930, continued during this year; bank shares in particular fell in March. The general index fell 4% during the quarter, but, as is seen in the table, several papers experienced a considerably heavier fall. The business done was larger and amounted during the quarter to 71 million marks compared with 54 millions during the two previous years.

Index for shares; 1926=100

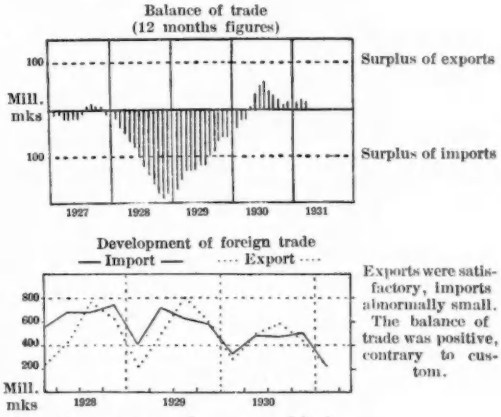
	1930 Mch.	1930 Oct.	1930 Nov.	1930 Deç.	1931 Jan.	1931 Feb.	1931 Mch.	Change during quarter, %
N. Föreningsbanken	127	119	113	112	113	116	111	− 1
Kansallispankki	130	123	117	115	114	113	111	− 3
Unionbanken	138	133	125	103	89	88	88	−15
Helsingfors Bank	145	147	138	137	143	144	132	− 4
Kymmene	126	116	108	111	112	112	112	+ 1
Kemi	96	63	60	62	58	53	50	−19
Tammerfors Linne	136	118	112	111	113	111	111	0
De Förenade Ylle	49	47	47	42	42	39	37	−12
Finlayson	99	96	97	85	84	84	83	− 2
Pargas	212	192	192	193	190	177	175	− 9
Finska Socker	142	154	158	157	163	169	171	+ 9
Strengberg	111	99	99	97	93	92	89	− 8
F. Å. A.	74	68	66	64	56	57	53	−17
Interurbana Telefon	139	154	160	161	152	150	148	− 8
Banks	*133*	*127*	*120*	*115*	*114*	*114*	*110*	*− 4*
Industrials	*127*	*115*	*113*	*112*	*112*	*110*	*109*	*− 3*
All shares	*129*	*122*	*118*	*114*	*113*	*112*	*109*	*− 4*

Prices of shares have dropped about 4% during the quarter.

FOREIGN TRADE. This year foreign trade during the first quarter has had a very different character from previous years. This is clearly shown by the following figures.

Foreign trade during first quarter

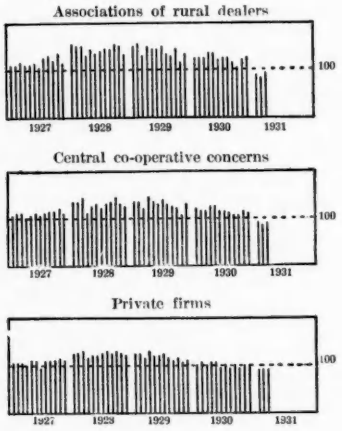
	Volume Imports 1926=100	Volume Exports 1926=100	Value Imports Mill. mks.	Value Exports Mill. mks.	Balance of trade
1928	172	134	1 690	744	−946
1929	121	122	1 188	687	−501
1930	105	159	953	844	−109
1931	78	140	661	671	+ 10



Exports were satisfactory, imports abnormally small. The balance of trade was positive, contrary to custom.

Exports were normal in extent, but a little below normal in value. Imports, on the other hand — partly owing to the depression, partly to heavy stocks at the beginning of the year — were reduced extremely both in volume and value. It is gratifying that the quarter has provided a

positive balance of trade which must be described as unique for this, the dead season for our timber exports.

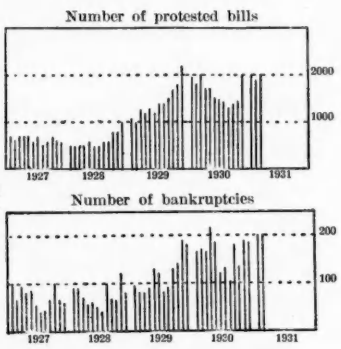


HOME TRADE. During the first quarter the turnover in home trade was very restricted, as the accompanying figures, based on the quarterly figures for 1926, indicate:

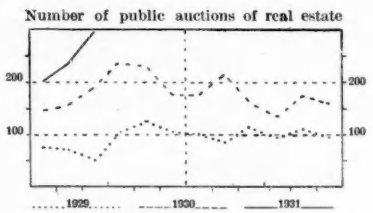
Index for commodity trade; 1926=100

	1929	1930	1931
Associations of rural dealers	145	125	89
Central co-operative concerns	130	117	88
Private firms	121	102	91
Total	*130*	*114*	*89*

The turnover was reduced in all classes of business and 1931 was on an average about 35% below the highest level of 1928 and even appreciably below the level of 1926. To some extent the continued falling off is due to the drop in prices. This affected imported goods most (4% during the quarter), especially flour (10%), textiles (9%) and oils (8%), to a minor extent products of local industry (1%), while products of local agriculture even show a slight rise in price. Another cause of the reduction of sales during the quarter is found in the heavy stocks held at the end of last year. These have decreased considerably during the quarter, and new purchases are made carefully. In general commodity trade appears to feel the reduced purchasing power more, especially among the rural population. Difficulty in meeting payments is reported everywhere to be increasing.



Home trade is markedly affected now by the depression.

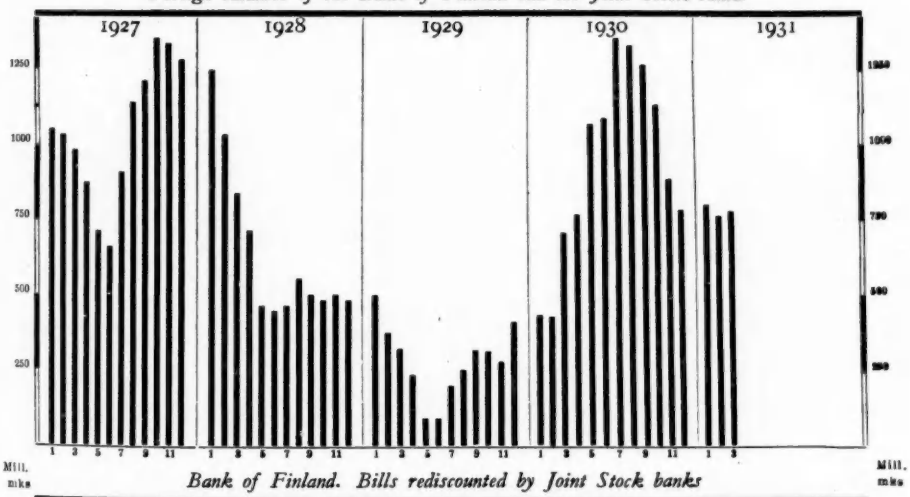


THE MONEY MARKET IN FINLAND

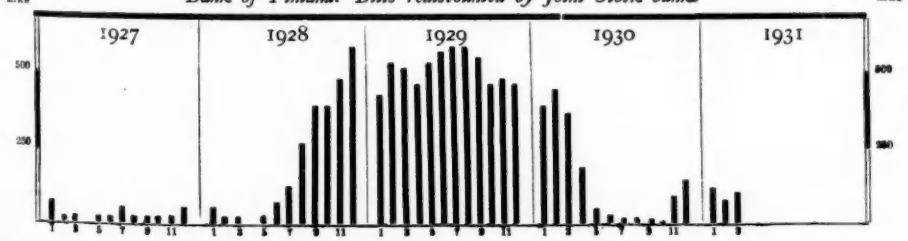
Figures for the last day in mill. mks

Year Month	Bank of Finland			Joint Stock banks			Deposits in financial institutions
	Gold reserve, foreign currency	Note reserve	Home credits	Deposits	Excess of credits	Rediscounted bills	
1925	1 740	763	479	4 168	1 054	26	7 904
1926	1 410	704	654	4 648	989	87	9 047
1927	1 676	697	810	5 287	1 136	55	10 631
1928	1 036	209	1 556	5 843	2 145	604	11 703
1929	971	535	1 381	5 995	2 085	490	12 071
1930	1 114	517	935	6 142	1 514	142	12 547
1930 Jan.	1 007	572	1 307	5 985	2 026	408	12 114
Feb.	1 040	497	1 372	6 015	2 045	464	12 174
March	1 238	555	1 261	6 101	1 805	376	12 425
April	1 250	574	1 041	6 134	1 694	191	12 481
May	1 327	561	903	6 133	1 331	52	12 847
June	1 179	524	841	6 279	1 073	21	12 910
July	1 250	468	758	6 284	900	15	12 883
Aug.	1 209	438	703	6 238	969	12	12 755
Sept.	1 170	458	699	6 231	1 095	6	12 586
Oct.	1 156	408	762	6 155	1 297	5	12 485
Nov.	1 114	534	869	6 090	1 565	98	12 261
Dec.	1 114	518	935	6 142	1 502	147	12 547
1931 Jan.	1 033	504	855	6 146	1 353	115	12 728
Feb.	1 041	407	833	6 154	1 404	86	12 725
March	1 063	488	824	6 256	1 370	90	12 716

Foreign balances of the Bank of Finland and the Joint Stock banks



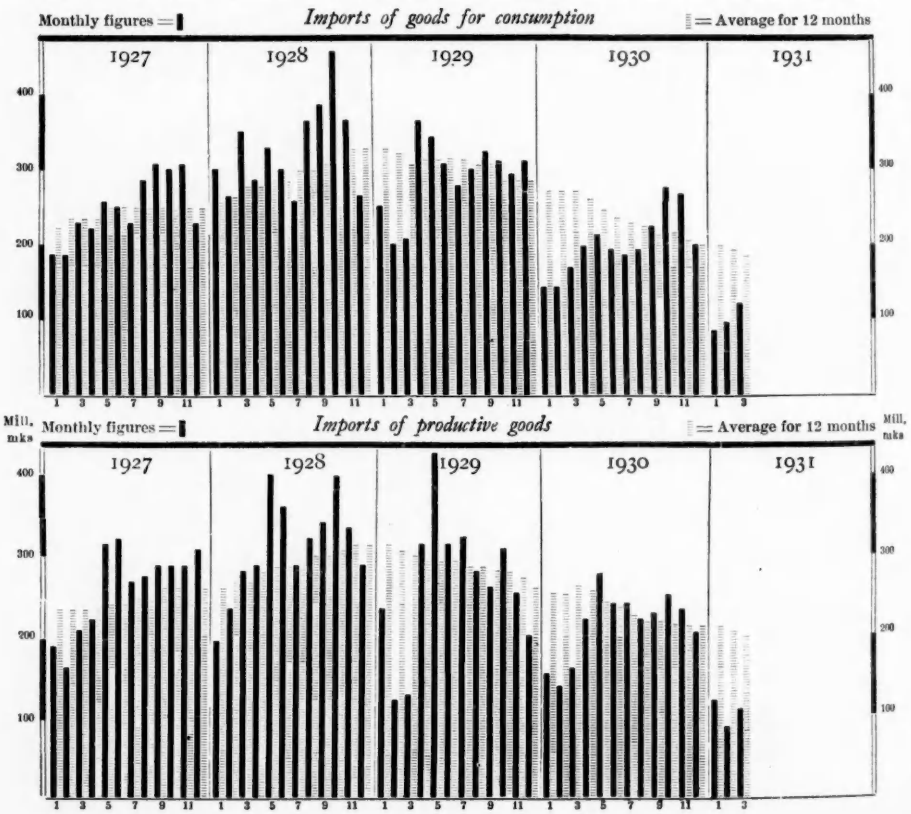
Bank of Finland. Bills rediscounted by Joint Stock banks



IMPORTS INTO FINLAND

Value in mill. mks — Index basis 1926

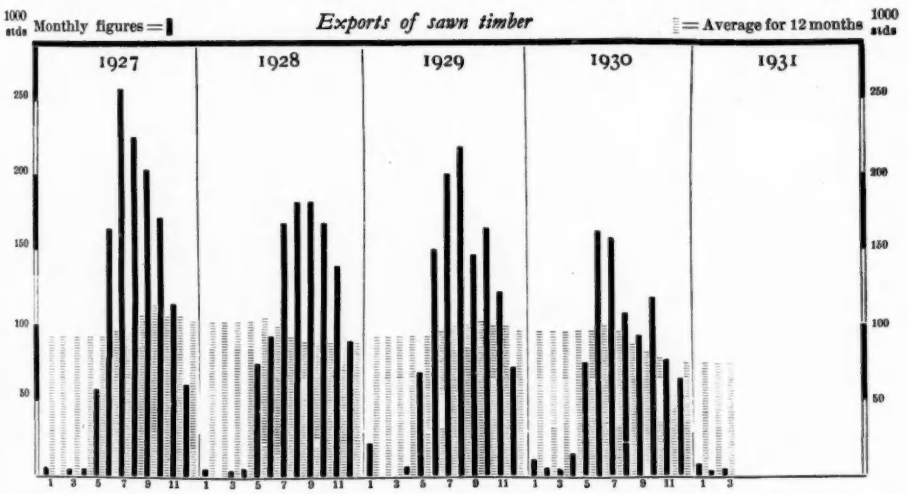
Year month	Food-stuffs, beverages	Raw materials, semi-finished products	Finished goods	Live animals	Gold, silver; crude & minted	Total imports	Volume index
1925	2 058	1 380	2 074	2	6	5 520	96
1926	1 484	1 566	2 609	1	8	5 668	100
1927	1 533	1 645	3 197	4	7	6 386	113
1928	2 088	1 984	3 921	10	10	8 013	141
1929	1 932	1 700	3 348	7	10	6 996	125
1930	1 259	1 548	2 410	3	28	5 248	109
1930 Jan.	76	85	148	0.2	0.4	309	100
Feb.	74	82	140	0.2	0.7	297	108
March	82	84	181	0.2	0.7	348	106
April	98	115	228	0.2	0.4	442	107
May	112	129	276	0.3	0.6	518	106
June	110	133	210	0.1	0.5	453	106
July	101	140	194	0.2	21.6	457	112
Aug.	95	142	206	0.1	0.5	444	97
Sept.	103	147	238	0.1	0.5	489	105
Oct.	166	159	231	0.4	0.7	557	131
Nov.	154	168	195	0.3	0.5	518	132
Dec.	88	164	163	0.8	0.6	416	95
1931 Jan.	28	66	127	1.4	0.5	223	77
Feb.	32	47	113	0.02	0.3	192	75
March	42	60	144	0.005	0.6	246	80

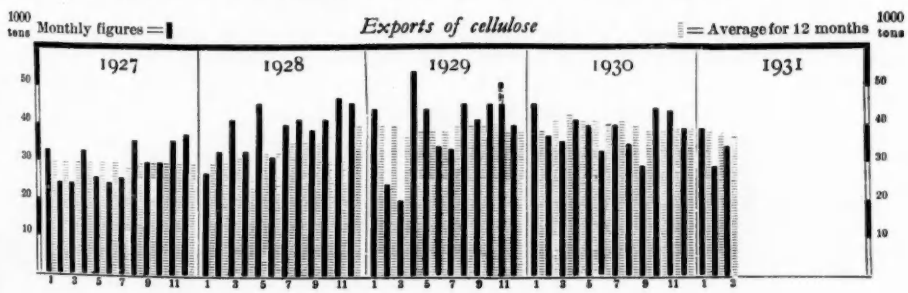


EXPORTS FROM FINLAND

Value in mill. mks — Index basis 1926

Year Month	Wood-goods	Products of paper trade	Animal foodstuffs	Other exports	Total exports	Volume index
1925	3 012	1 537	614	411	5 574	95
1926	3 153	1 629	531	323	5 636	100
1927	3 711	1 678	565	370	6 324	112
1928	3 481	1 867	512	385	6 245	111
1929	3 481	1 901	599	449	6 430	117
1930	2 625	1 840	518	415	5 398	102
1930 Jan.	54	186	52	27	319	169
Feb.	38	144	49	28	259	160
March	43	146	52	25	266	147
April	75	160	54	34	323	143
May	236	156	43	44	479	139
June	447	150	45	30	672	124
July	483	155	45	25	708	96
Aug.	334	139	30	37	540	80
Sept.	273	139	32	39	483	72
Oct.	302	160	43	48	553	84
Nov.	186	156	35	45	422	78
Dec.	154	149	38	33	374	101
1931 Jan.	41	139	45	23	248	145
Feb.	30	102	43	22	197	134
March	33	126	45	22	226	141



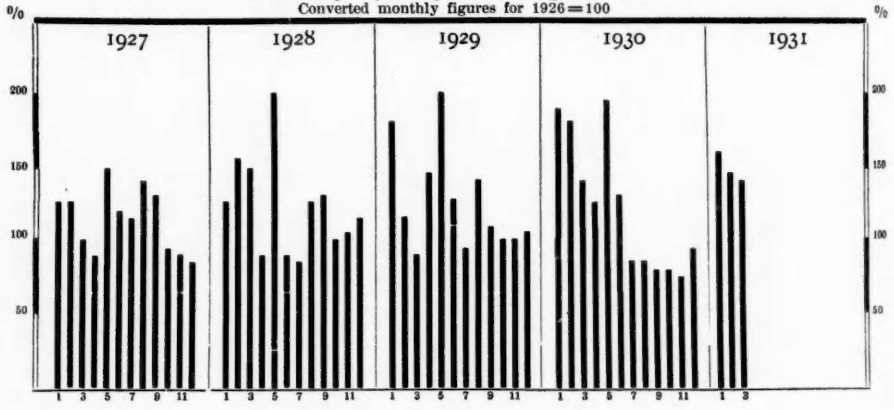


INDUSTRY IN FINLAND

Year Month	Sawntimber Sold for shipping season Stds End of	Paper: Newsprint paper Orders in hand Tons End of	Paper: Other paper Orders in hand Tons End of	Cellulose Orders in hand Tons Dry weight End of	Mechanical pulp Orders in hand Tons Dry weight End of	Plywood Production in cub. metres
1925	1 000 000	99 000	25 000	249 000	20 000	.
1926	1 100 000	98 000	31 000	221 000	36 000	88 100
1927	1 250 000	106 000	36 000	251 000	79 000	88 100
1928	1 150 000	153 000	38 000	361 000	100 000	105 000
1929	1 180 000	143 000	41 000	425 000	144 000	146 500
1930	925 000	156 000	32 000	489 000	116 000	138 400
1930 Jan.	290 000	155 000	47 000	423 000	133 000	12 100
Feb.	350 000	141 000	52 000	431 000	241 000	11 300
March	420 000	129 000	41 000	418 000	240 000	11 900
April	500 000	116 000	41 000	433 000	223 000	12 700
May	560 000	105 000	49 000	463 000	212 000	13 400
June	610 000	93 000	43 000	458 000	197 000	11 000
July	640 000	102 000	40 000	475 000	177 000	11 900
Aug.	665 000	106 000	39 000	502 000	171 000	11 700
Sept.	760 000	111 000	39 000	535 000	155 000	11 700
Oct.	850 000	140 000	35 000	502 000	146 000	11 300
Nov.	920 000	146 000	34 000	516 000	136 000	10 400
Dec.	925 000	156 000	32 000	489 000	116 000	9 000
1931 Jan.	80 000	161 000	30 000	473 000	115 000	9 700
Feb.	120 000	156 000	28 000	463 000	114 000	9 400
March	175 000	154 000	26 000	468 000	114 000	10 200

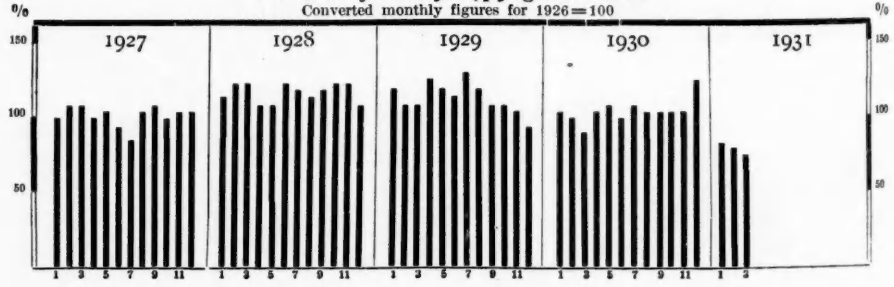
Volume of exports of woodworking industries

Converted monthly figures for 1926 = 100



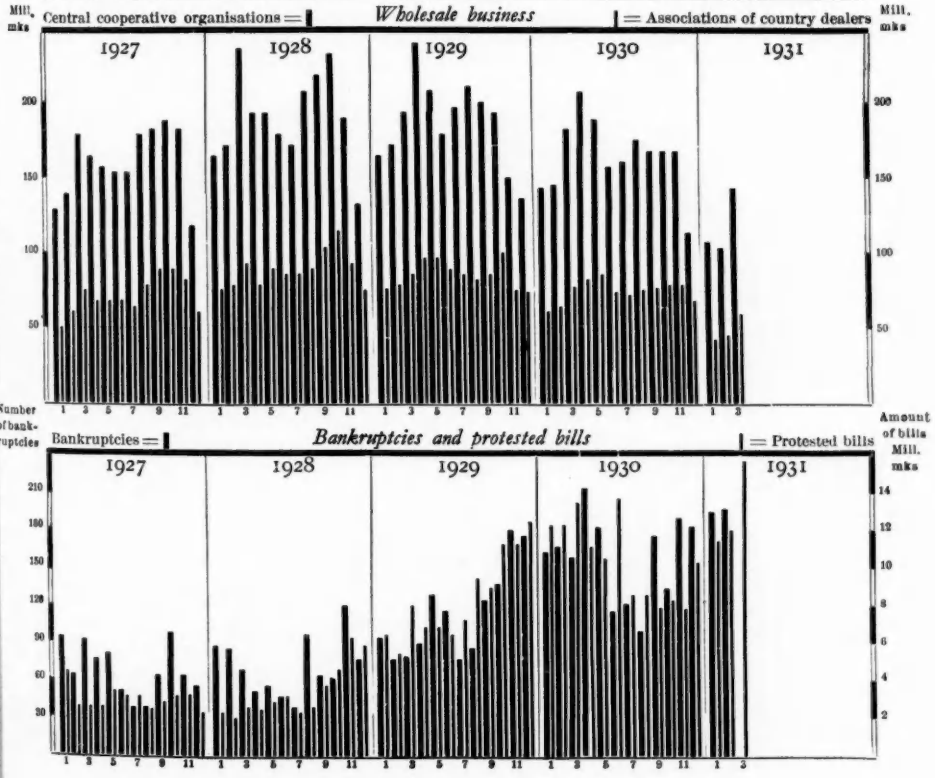
Production of industry supplying home market

Converted monthly figures for 1926 = 100



COMMERCE IN FINLAND

Year Month	Sales of the centralcooperative organisations Mill. mks	Sales of the associations of country dealers Mill. mks	Sales on the Helsingfors Stock Exchange Mill. mks	Protested bills Mill. mks	Bankruptcies Number	Railway goods traffic Mill. truck-axle km
1925	1 647	672	145	37	891	589
1926	1 751	743	341	37	828	632
1927	1 926	865	784	37	857	671
1928	2 295	1 073	511	43	889	665
1929	2 274	1 037	168	103	1 401	653
1930	2 015	914	180	127	1 945	592
1930 Jan.	146	60	20	12.6	166	43
Feb.	149	66	18	12.7	170	52
March	187	78	16	13.5	165	55
April	212	86	28	11.2	215	49
May	190	88	12	10.6	187	56
June	158	76	9	13.9	120	54
July	168	76	11	8.7	129	62
Aug.	179	78	7	8.8	99	53
Sept.	171	80	10	8.1	179	48
Oct.	169	79	12	8.3	136	43
Nov.	169	79	19	8.1	192	40
Dec.	117	68	18	10.5	187	37
1931 Jan.	111	42	24	11.5	199	42
Feb.	106	45	28	12.2	201	47
March	146	59	19	15.9	.	.

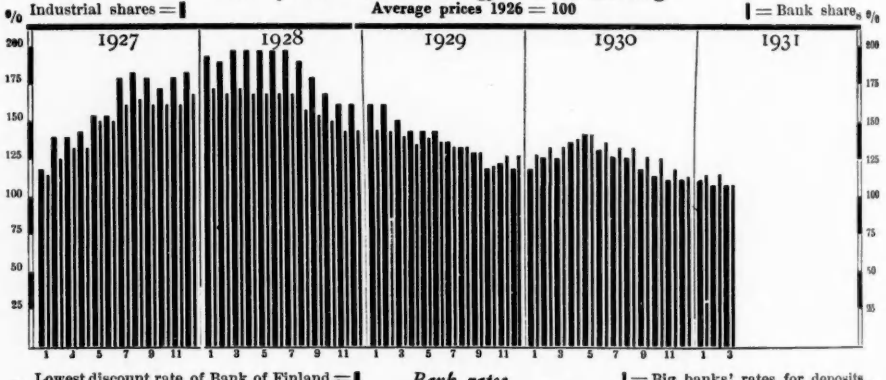


LEVEL OF PRICES IN FINLAND

Index for prices and values; 1926 = 100

Year Month	Wholesale prices: Agricultural products, Finnish	Wholesale prices: Industrial products, Finnish	Wholesale prices: General index	Cost of living	Foreign trade, value per unit: Imports	Foreign trade, value per unit: Exports	Prices of shares on Helsingfors Exchange
1925	·	·	c. 104	102	106	102	79
1926	100	100	100	100	100	100	100
1927	104	100	101	102	98	100	152
1928	110	102	102	104	98	99	170
1929	100	99	98	104	94	96	135
1930	82	96	90	95	82	90	129
1930 Jan.	88	98	94	99	91	91	126
Feb.	88	97	93	98	91	88	129
March	88	97	92	97	89	88	129
April	85	97	92	95	87	86	138
May	82	96	90	93	81	92	141
June	82	96	90	93	82	95	135
July	86	96	90	95	78	95	132
Aug.	83	96	89	96	80	93	132
Sept.	78	95	88	95	81	93	126
Oct.	75	94	86	93	74	89	122
Nov.	74	95	87	92	70	86	118
Dec.	73	94	86	91	74	84	114
1931 Jan.	74	94	86	89	79	79	113
Feb.	74	93	86	89	78	77	112
March	75	93	86	88	78	75	109

Prices of shares on the Helsingfors Stock Exchange



Bank rates